

## ISIS - Feature #4221

### Develop radiometric calibration application, amicacal, for the Hayabusa AMICA framing instrument

2016-08-11 04:49 PM - Tyler Wilson

<b>Status:</b>	Closed	<b>Software Version:</b>
<b>Priority:</b>	Normal	
<b>Assignee:</b>	Tyler Wilson	
<b>Category:</b>	Applications	
<b>Target version:</b>	3.4.13 (FY16 R3 2016-08-31 Aug)	
<b>Impact:</b>	This is a calibration application for the AMICA instrument on Hayabusa, and will not affect other parts of ISIS.	
<b>Description</b>		
The Hayabusa AMICA instrument requires a radiometric calibration correction application. The steps required to implement the calibration are:		
1) BIAS – Formula and subtract using center date. Check for smear-corrected pictures (already corrected for bias? ~SKY=0)		
2) LINEARITY		
3) DARK is negligible and likely won't be added		
4) HOT PIXELS – we just use the six top hot pixels (table6)		
5) SMEAR REMOVAL (>10/02/2005) extract sky value (edge of frame?)		
6) FLAT FIELD – Pre-flight flats then derive time-dependent flats derived from the FF lamp measurements?		
7) CONVERSION DN to I/F – Conversion factors+ solar distance. Will check the conversion factor we have to use.		
8) PSF correction		
References:		
The Hayabusa Spacecraft Asteroid Multi-Band Imaging Camera (AMICA), Ishiguro, M. et al, <a href="http://arxiv.org/abs/0912.4797">[[[http://arxiv.org/abs/0912.4797]]]</a>		
<b>New Bugs</b>		
1. The PSF correction functionality of this application still has some bugs in it and should be removed until it is fixed.		
2. The Calibrate function calculates the bias each time it is called by the ProcessBySample class and since the bias does not change, this calculation should be moved outside of Calibrate.		
3. Use an Alpha cube for subimage and binning mapping		
<b>Related issues:</b>		
Copied from ISIS - Feature #3880: Develop radiometric calibration application...		<b>Resolved</b>

#### History

##### #1 - 2016-08-11 04:49 PM - Tyler Wilson

- Copied from Feature #3880: Develop radiometric calibration application, amicacal, for the Hayabusa AMICA framing instrument added

##### #2 - 2016-08-11 04:53 PM - Tyler Wilson

- Status changed from Resolved to Closed